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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/626,655	07/27/2000	Richard W. Webb	0100.0000750	2711

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EXAMINER

HSIA, SHERRIE Y

ART UNIT	PAPER NUMBER
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2614

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DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,655

Applicant(s)

WEBB, RICHARD W.

Examiner

Sherrie Hsia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,6-31 and 33-46 is/are allowed.
- 6) ☒ Claim(s) 5 and 32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because in Fig. 3, blocks “301”, “305”, “306”, “314”, “308” and “309” should be functionally labelled. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase “Not Applicable” should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), “Sequence Listings” (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A “MICROFICHE APPENDIX” (See MPEP § 608.05(a). “Microfiche Appendices” were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.

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- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

BRIEF SUMMARY OF THE INVENTION is missing.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 5 and 32, the phrase "for on the pixel as a whole" renders the claim indefinite because it is unclear what the phrase "... is performed **for on the pixel as a whole**" is meant. Applicant must clarify it.

Allowable Subject Matter

4. Claims 5 and 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

5. Claims 1-4, 6-31 and 33-46 appear allowable over prior art.

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The following is a statement of reasons for the indication of allowable subject matter: as to claims 1 and 28, the prior art fails to show or fairly suggest a method of reducing noise in an image sequence having the combination as claimed, including the steps of obtaining, determining a difference, when the difference is greater than a threshold, producing a new parameter value using the current parameter value and when the difference is less than the threshold, producing the new parameter value by combining the previous parameter value and the current parameter value in a variable ratio, the variable ratio depending on the difference, as recited in the claims.

As to claim 6 and 33, the prior art fails to show or fairly suggest a method of reducing noise in an image sequence having the combination as claimed, including the steps of obtaining, determining a difference, when the difference is less than a lower threshold, producing a new parameter value for the current instance of the pixel by combining the previous parameter value and the current parameter value in a fixed ratio, when the difference is greater than a higher threshold, producing the new parameter value using the current parameter value and when the difference is between the lower threshold and the higher threshold, producing the new parameter value by combining the previous parameter value and the current parameter value in a variable ratio, the variable ratio depending on the difference, as recited in the claims.

As to claims 15 and 42, the prior art fails to show or fairly suggest a method of reducing noise in an image sequence having the combination as claimed, including the steps of obtaining, determining a difference, when the difference is less than a lower threshold, producing a new parameter value for the current instance of the pixel by combining the previous parameter value and the current parameter value in a first ratio, when the difference is greater than a higher threshold, producing the new parameter value using the current parameter value and when the

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difference is between the lower threshold and the higher threshold, producing the new parameter value by combining the previous parameter value and the current parameter value in a second ratio, the second ratio being more heavily weighted toward the current parameter value than the first ratio, as recited in the claims.

As to claims 17 and 44, the prior art fails to show or fairly suggest a method of reducing noise in an image sequence having the combination as claimed, including the steps of obtaining, determining a difference, when the difference is less than a threshold, producing a new parameter value for the current instance of the pixel by combining the previous parameter value and the current parameter value in a fixed ratio, when the difference is greater than the threshold, producing the new parameter value by combining the previous parameter value and the current parameter value in a variable ratio, the variable ratio depending on the difference, as recited in the claims.

As to claim 20, the prior art fails to show or fairly suggest an apparatus for reducing noise in an image sequence having the combination as claimed, including an absolute difference calculator operatively coupled to receive a current property of a current instance of a pixel and a previous property of a previous instance of a pixel and to provide an absolute difference of the current property and the previous property, a blending factor determination block operatively coupled to the absolute difference calculator to receive the absolute difference and to provide a blending factor and a new property calculator operatively coupled to the blending factor determination block to receive the blending factor, the previous property, and the current property and to provide a new property, the new property used to display the pixel in the image sequence.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

De Haan discloses an image data recursive noise filter with reduced temporal filtering of higher spatial frequencies.

Olsson shows a method and device for noise reduction having frame memory and pixel memory.

Wang discloses a spatial and temporal filtering mechanism for digital motion video signals.

Oyama shows a noise reduction method and device for image signal.

Lee shows an apparatus and method for detecting scene changes using the difference of mad between image frames.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherrie Hsia whose telephone number is (703) 305-4738

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:

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Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.



**Sherrrie Hsia
Primary Examiner
Art Unit 2614**

SH
March 8, 2004